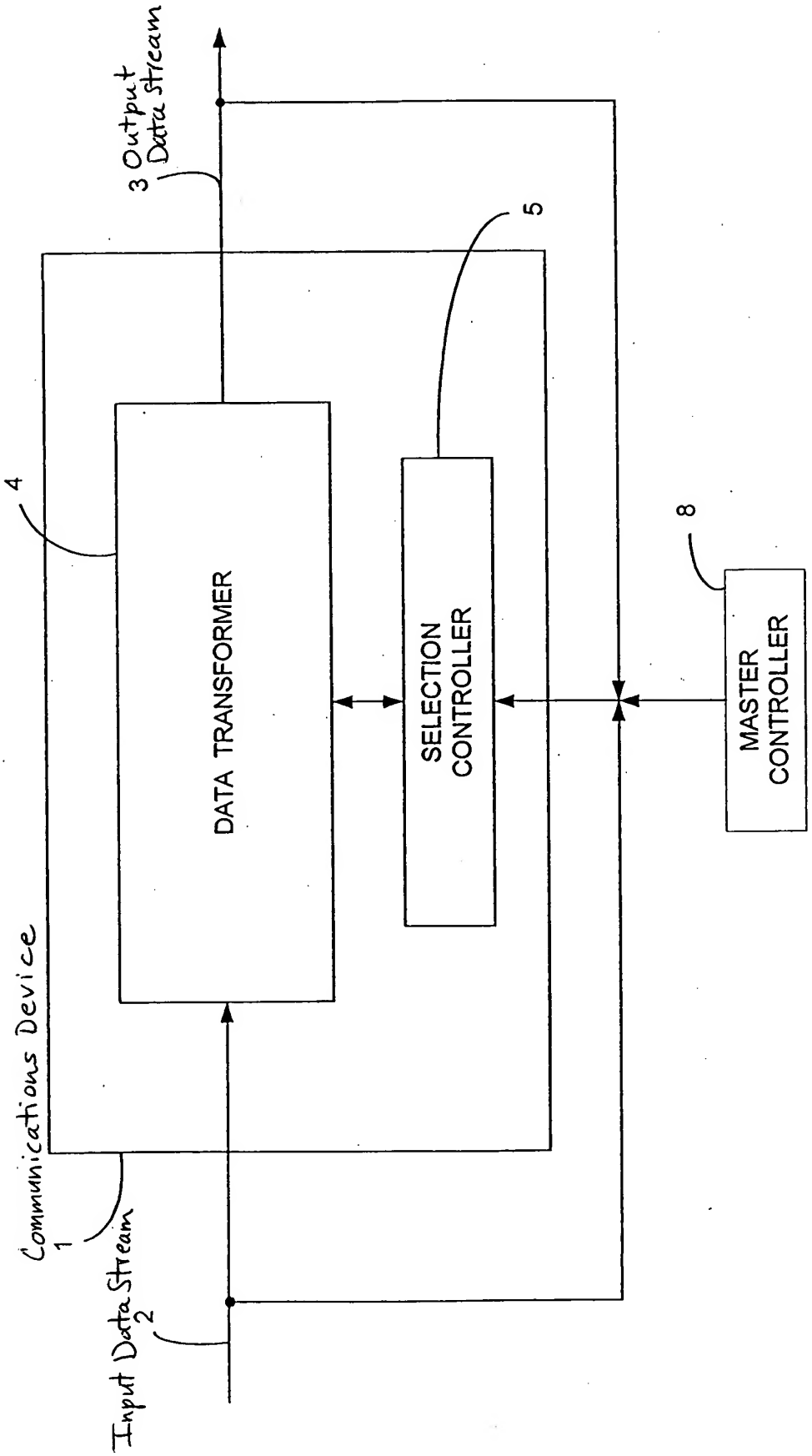
OIPE MP26
NOV 14 2005
PATENT & TRADEMARK OFFICE

FIG. 1



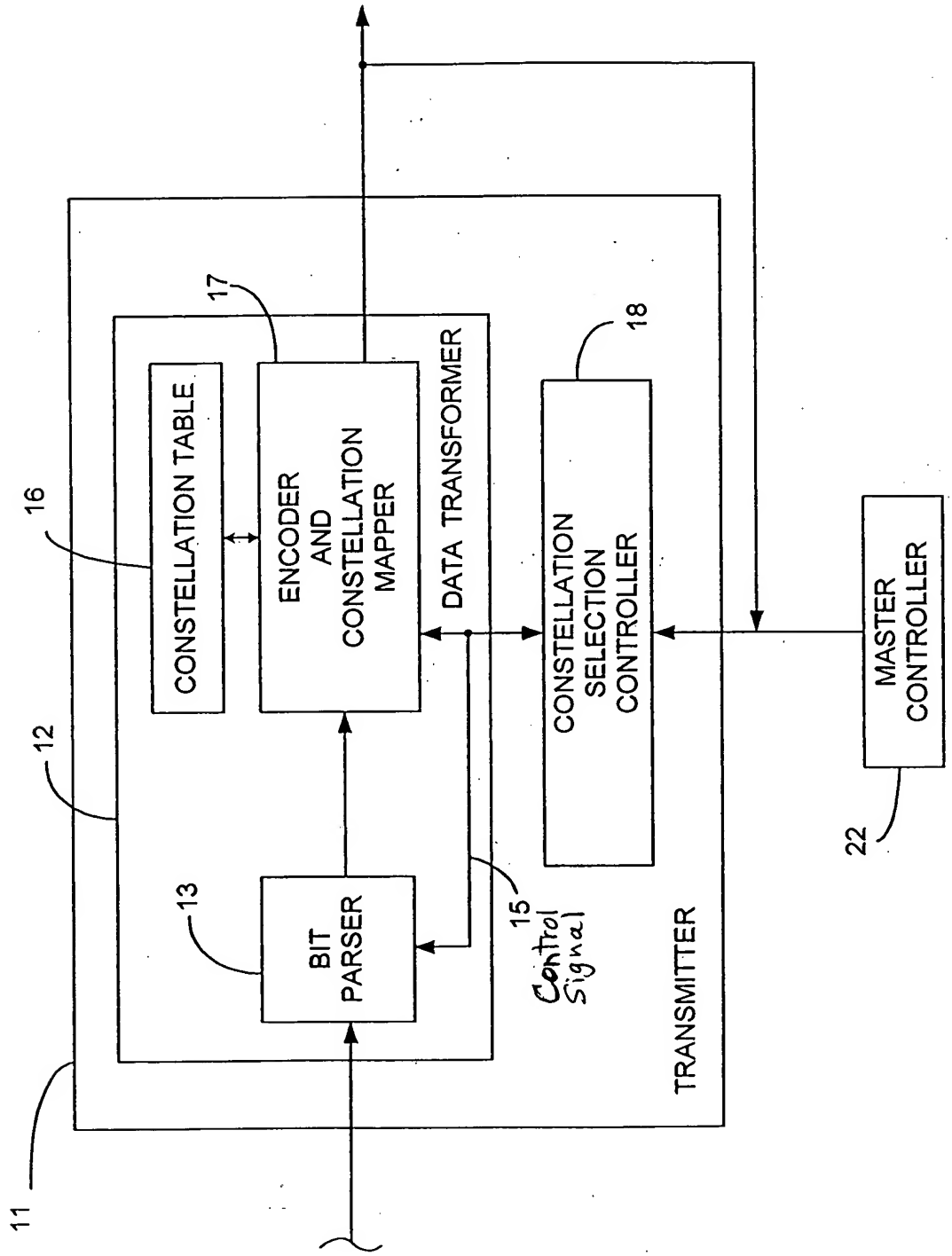

11
12
13
15
Control Signal
16
17
18
22
TRANSMITTER
BIT PARSER
CONSTELLATION TABLE
ENCODER AND CONSTELLATION MAPPER
DATA TRANSFORMER
CONSTELLATION SELECTION CONTROLLER
MASTER CONTROLLER

FIG. 2

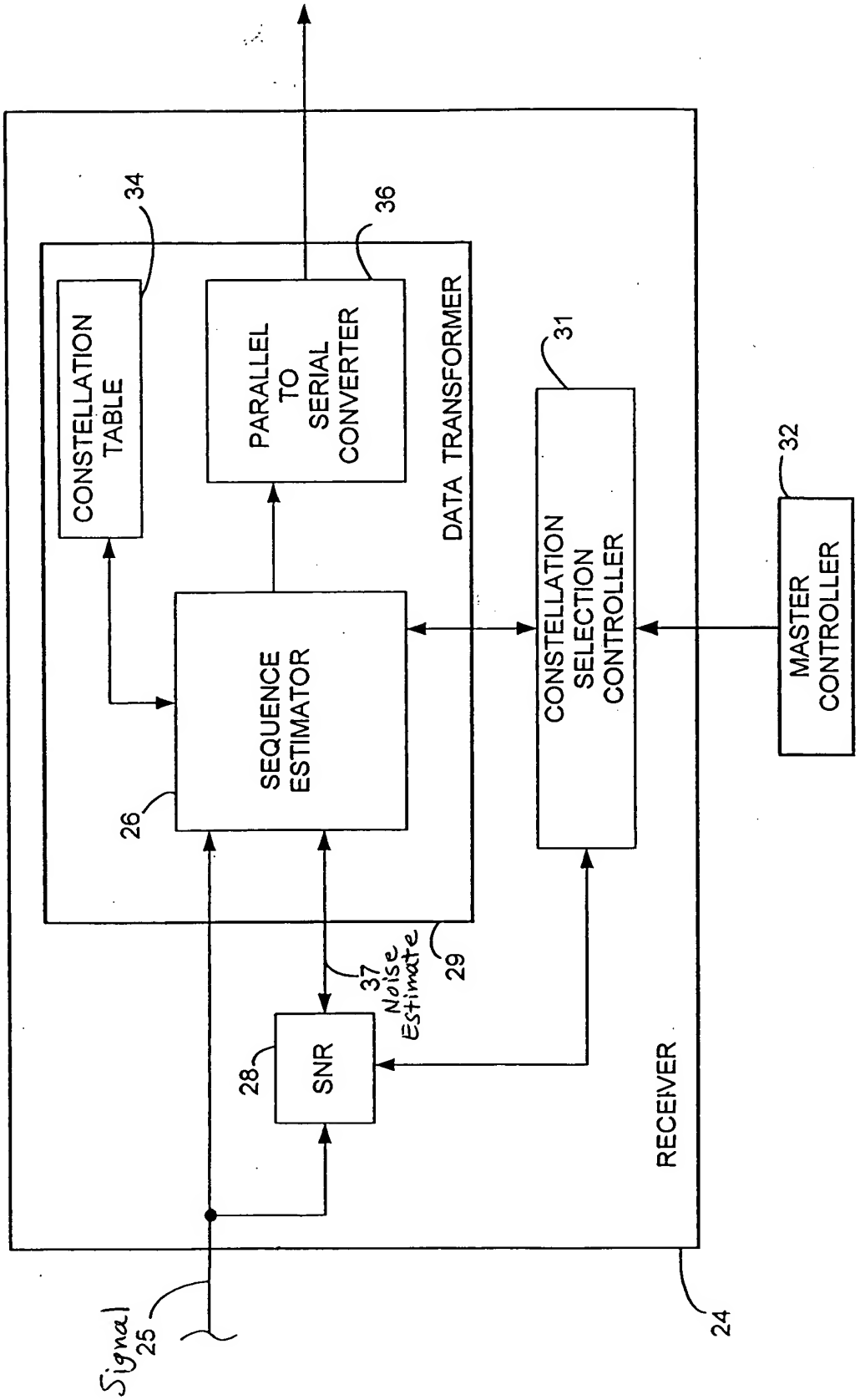

RECEIVER
24
Signal
25
SNR
28
37
Noise
Estimate
29
SEQUENCE
ESTIMATOR
26
CONSTELLATION
TABLE
34
PARALLEL
TO
SERIAL
CONVERTER
36
DATA TRANSFORMER
CONSTELLATION
SELECTION
CONTROLLER
31
MASTER
CONTROLLER
32

FIG. 3

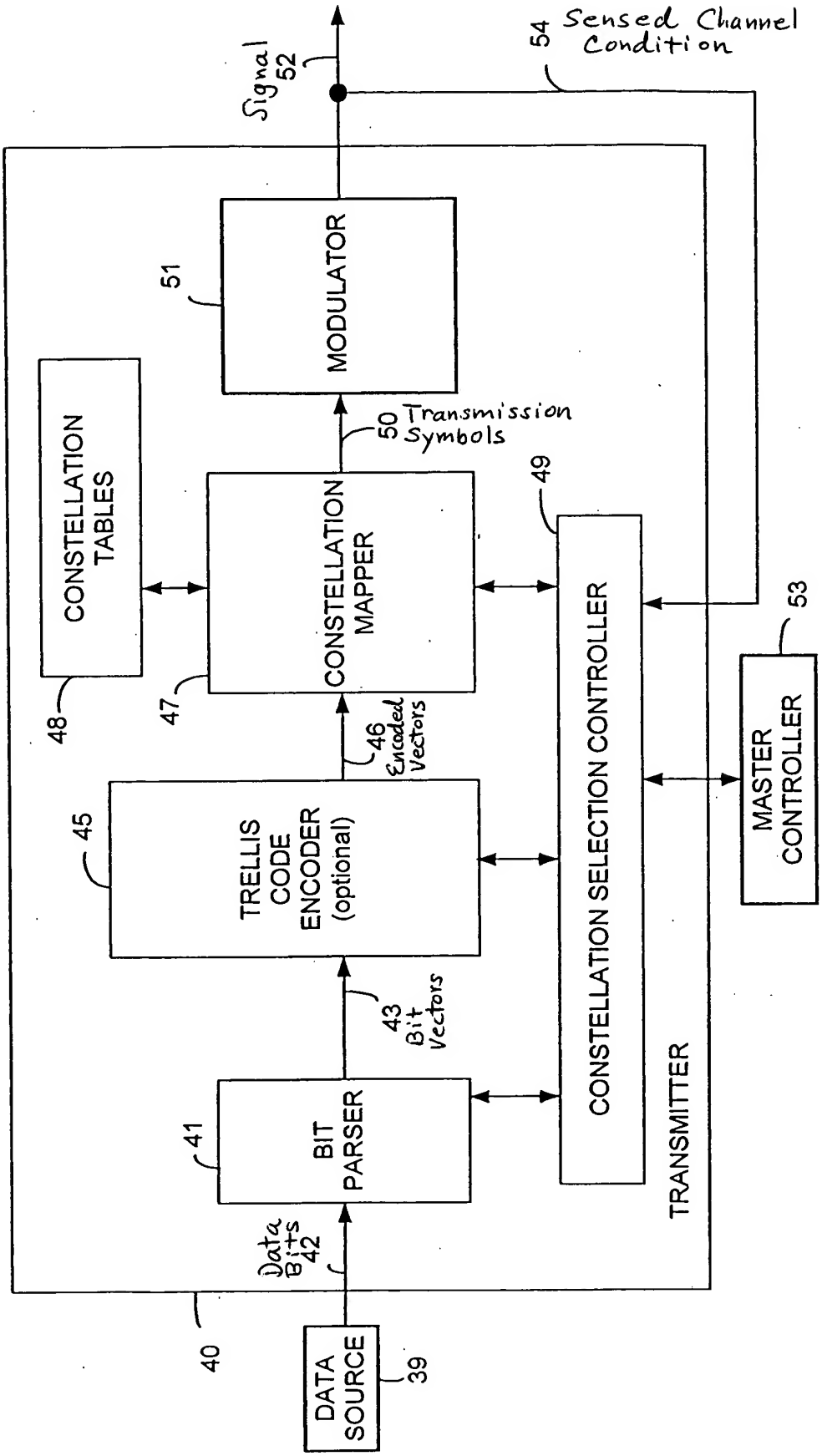

Signal
52
54 Sensed Channel Condition
MODULATOR
51
CONSTELLATION TABLES
48
50 Transmission Symbols
CONSTELLATION MAPPER
47
49
46 Encoded Vectors
TRELLIS CODE ENCODER (optional)
45
43 Bit Vectors
BIT PARSER
41
CONSTELLATION SELECTION CONTROLLER
MASTER CONTROLLER
53
TRANSMITTER
Data Bits 42
DATA SOURCE
39
40

FIG. 4

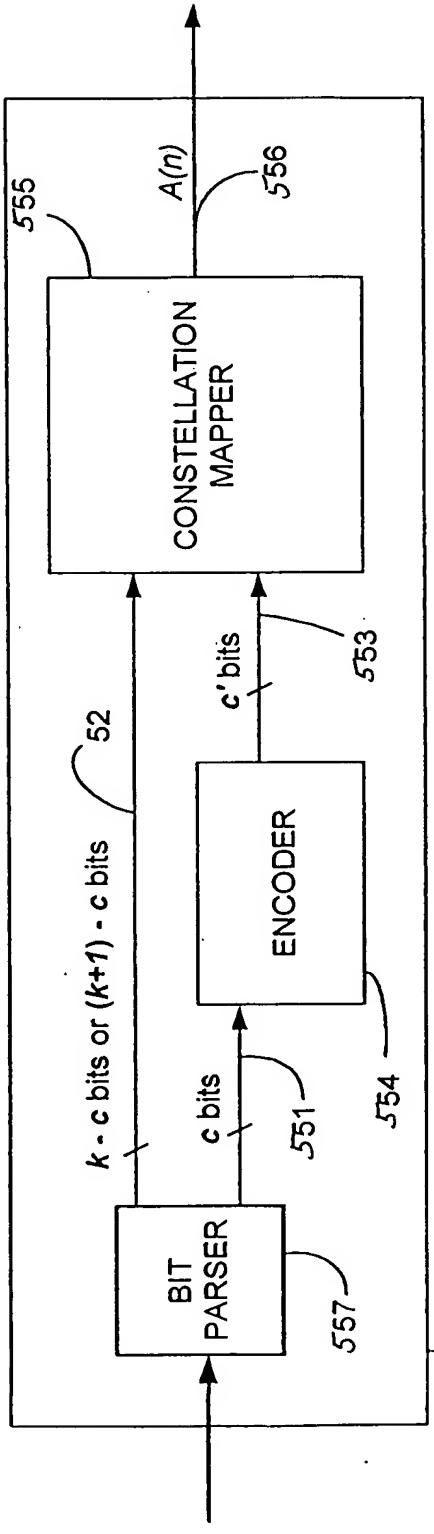

555
A(n)
556
CONSTELLATION MAPPER
52
c' bits
553
ENCODER
k - c bits or (k+1) - c bits
c bits
551
554
BIT PARSER
557
550 Encoder

FIG. 5a

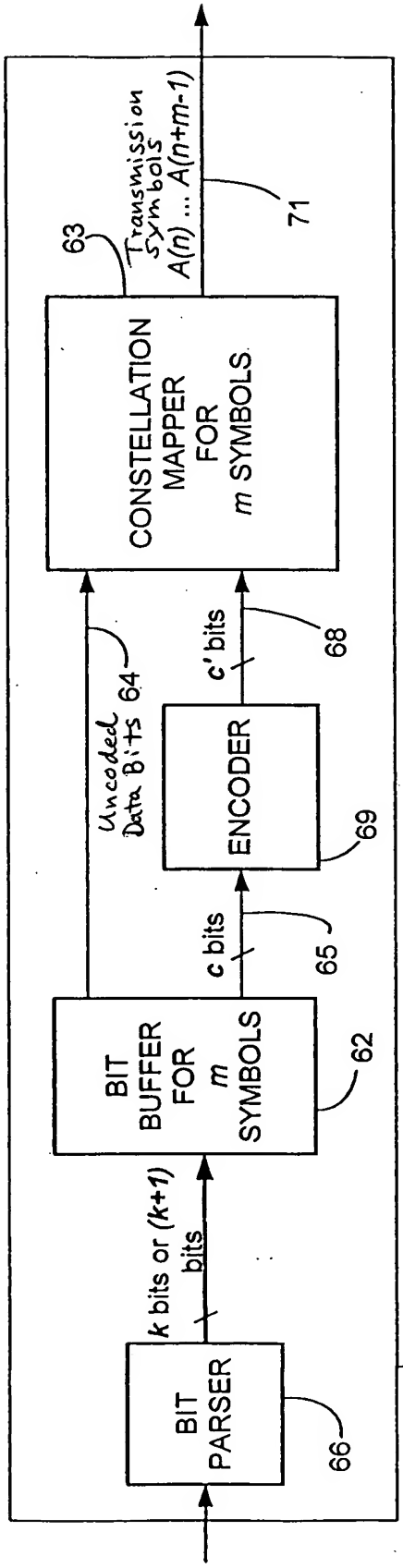
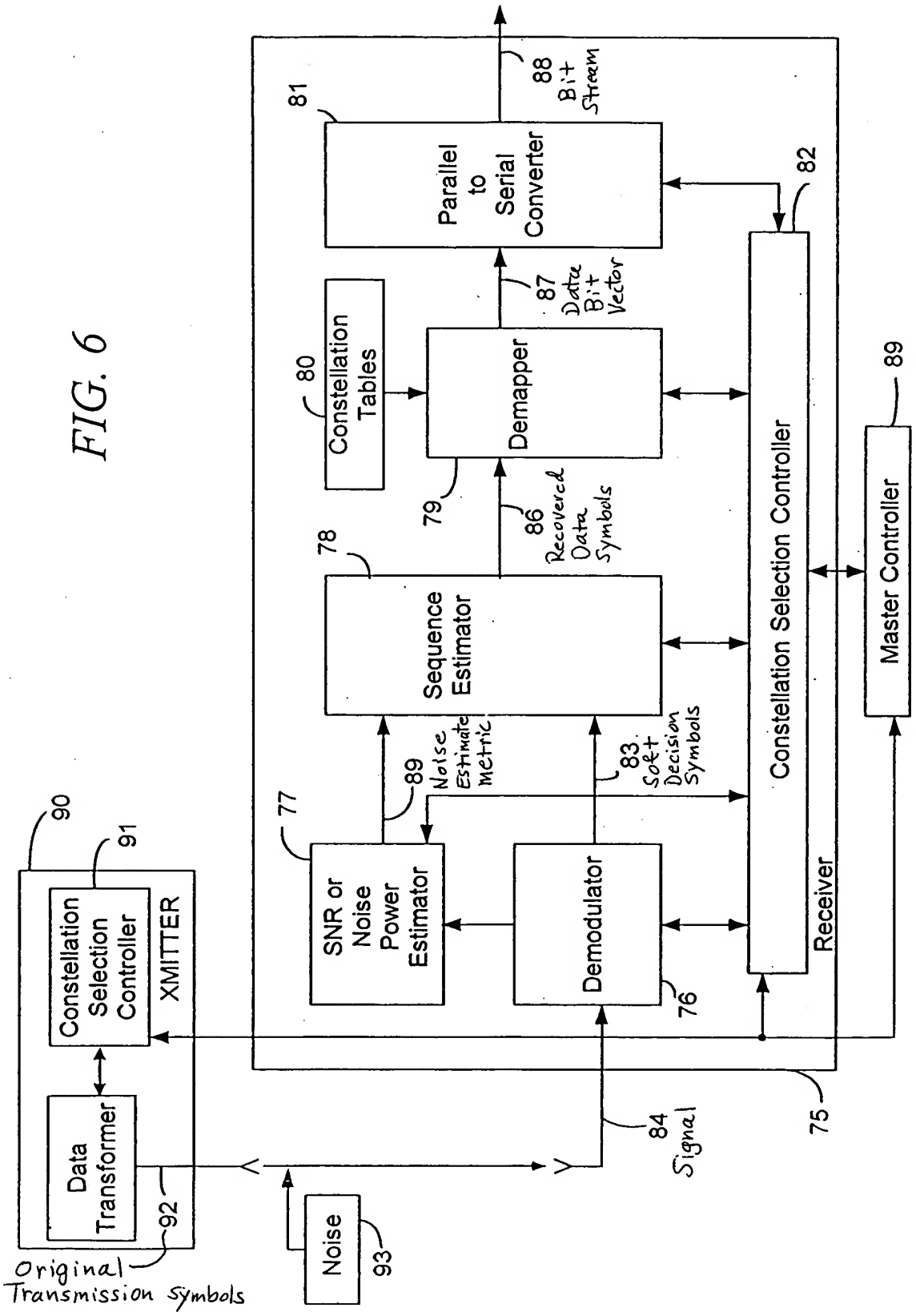

63
Transmission symbols A(n) ... A(n+m-1)
71
CONSTELLATION MAPPER FOR m SYMBOLS
Uncoded Data Bits 64
c' bits
68
ENCODER
69
c bits
65
BIT BUFFER FOR m SYMBOLS
62
k bits or (k+1) bits
BIT PARSER
66
60 Encoder

FIG. 5b

FIG. 6


Parallel to Serial Converter
81
88 Bit Stream
82
Constellation Tables
80
Demapper
87 Data Bit Vector
79
86 Recovered Data Symbols
78
Sequence Estimator
89 Noise Estimate metric
83 Soft Decision Symbols
77
SNR or Noise Power Estimator
Demodulator
76
Constellation Selection Controller
Receiver
Master Controller
89
75
84 Signal
90
91
Constellation Selection Controller
XMITTER
Data Transformer
92
Original Transmission Symbols
Noise
93